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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/709,739	05/26/2004	Itzhak Bentwich	050992.0302.CPUS00	3738

37808 7590 10/30/2006

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EXAMINER	
SCHNIZER, RICHARD A	
ART UNIT	**PAPER NUMBER**
1635	

DATE MAILED: 10/30/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/709,739	BENTWICH ET AL.	
	Examiner	Art Unit	
	Richard Schnizer, Ph. D.	1635	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☐ Claim(s) 1-22 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☐ Claim(s) _____ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) 1-22 are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Notice to Comply with Sequence Rules

This application contains sequence disclosures that are encompassed by the definitions for nucleotide and/or amino acid sequences set forth in 37 CFR §§1.821(a)(1) and (a)(2). See, for example, the sequences listed in Figures 13, 14B, 15A, 19A, 19D, 19E, and 21B, and paragraphs 345, 360, 361, 362, 364, 389, 392, and 453-473 of the instant specification. The requirements of 37 CFR §§1.821 through 1.825 requires the submission of a computer readable form sequence listing, a paper copy for the specification, a statement under 37 CFR §§1.821(f) and (g), and SEQ ID Nos cited along with each sequence listed in the specification or Figures.

The submission of a computer readable form (CRF), submitted by applicants on 01/10/2005, for sequences disclosed in paragraph 0123 of the instant specification is acknowledged, however the CRF does not contain a listing for the sequences disclosed in Figures 21A, 22A, and 23A. Further, the specification does not contain SEQ ID Nos cited along with each sequence in the specification or Figures for any sequence disclosed in the instant application.

Applicants are also reminded that SEQ ID Nos are not required in the Figures per se, however, the corresponding SEQ ID Nos then are required in the Brief Description of the Drawings section in the specification. Applicants are also reminded that a CD-ROM sequence listing submission may replace the paper and computer readable form sequence listing copies. Applicant(s) are given the same response time regarding this failure to comply as that set forth to this Office action. Failure to respond to this

requirement may result in abandonment of the instant application or notice of a failure to fully respond to this Office action.

Election/Restrictions

Restriction to one of the following inventions is required under 35 U.S.C. 121:

1. Claims 1-9 and 18-22, drawn to a bioinformatically detectable oligonucleotide, classified in class 536, subclass 24.5. A further sequence election and species election identified below are also required if this group is elected.
2. Claims 10-15 drawn to a method of treatment of a disease involving a tissue in which a protein is pathologically expressed to undesirable extent comprising providing a material which modulates activity of a microRNA oligonucleotide that binds complementarily to a segment of mRNA, classified for example in class 514, subclass 44.
3. Claim 16, drawn to a method of diagnosis of a disease involving a tissue in which a protein is expressed to an abnormal extent comprising assaying a microRNA oligonucleotide that binds at least partially a segment of an mRNA encoding said protein, classified in class 436, subclass 6.
4. Claim 17, drawn to a method for detection of expression of an oligonucleotide, the method comprising: determining a first nucleotide sequence of a first oligonucleotide, which first nucleotide sequence is not complementary to a genome of an organism; receiving a second

oligonucleotide sequence of a second oligonucleotide whose expression is sought to be detected; designing a third nucleotide sequence that is complementary to said second nucleotide sequence of said second oligonucleotide, and a fourth nucleotide sequence that is complementary to a fifth nucleotide sequence which is different from said second nucleotide sequence of said second oligonucleotide by at least one nucleotide; synthesizing a first oligonucleotide probe having a sixth nucleotide sequence comprising said third nucleotide sequence followed by said first nucleotide sequence of said first oligonucleotide, and a second oligonucleotide probe having a seventh nucleotide sequence comprising said fourth nucleotide sequence followed by said first nucleotide sequence of said first oligonucleotide; locating said first oligonucleotide probe and said second oligonucleotide probe on a microarray platform; receiving an RNA test sample from at least one tissue of said organism; obtaining size-fractionated RNA from said RNA test sample; amplifying said size-fractionated RNA; hybridizing said adaptor-linked RNA with said first and second oligonucleotide probes on said microarray platform; and determining expression of said first oligonucleotide in said at least one tissue of said organism, based at least in part on said hybridizing, classified in class 436, subclass 6.

The inventions are distinct, each from the other because of the following reasons:

Group 1 is related to groups 2-4 as a product to processes of use. The inventions can be shown to be distinct if either or both of the following can be shown: (1) the process for using the product as claimed can be practiced with another materially different product or (2) the product as claimed can be used in a materially different process of using that product (MPEP § 806.05(h)). Group 1 is drawn to an oligonucleotide. Groups 2-4 are drawn to methods of using an oligonucleotide. Group 2 is drawn to and reads on a method of treatment and requires modulation of at least nucleic acid in a cell. Groups 3 and 4 are drawn to assay methods of detecting gene expression. In the instant case, the product as claimed can be used in a materially different process of using that product. In regards to group 2, the product may be used in a method of hybridization, to detect gene expression. In regards to groups 3 and 4, the product may be used in a method of inhibiting gene expression by inhibiting translation.

Furthermore, search and examination of Group 1 with Groups 2-4 would impose a serious and undue burden. In the instant case, prior art searches of methods of treatment (or of methods of inhibiting gene expression in vitro) and of methods of detecting gene expression would not be coextensive with a prior art search of the claimed compound(s). Search of each of these inventions would require different key word searches of each method that would necessarily include a search for the distinctive method steps of each that would be different for each and that would not be required in a search of the compound(s). These searches would have to be performed using divergent patent and non-patent literature databases. The different searches

would then require subsequent in-depth analysis of the unrelated prior art literature, placing a serious and undue burden on the Office in terms of both search and examination. As such, it would be burdensome to perform search and examination of Group 1 with Groups 2-4.

Group 2 is unrelated to groups 3 and 4. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different designs, modes of operation, and effects (MPEP § 802.01 and § 806.06). In the instant case, the different inventions invention 2 is a method of treatment and inventions 3 and 4 are assays. As such they have different designs, modes of operation, and effects. The inventions are not disclosed as capable of use together.

Inventions 3 and 4 are related as combination and subcombination. Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particulars of the subcombination as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because the combination does not require seven different nucleotide sequences or a microarray platform. The subcombination has separate utility such as detecting expression of oligonucleotides from isolated cells, and need not be used to diagnose a disease or to detect an mRNA encoding a protein.

The examiner has required restriction between combination and subcombination inventions. Where applicant elects a subcombination, and claims thereto are subsequently found allowable, any claim(s) depending from or otherwise requiring all

the limitations of the allowable subcombination will be examined for patentability in accordance with 37 CFR 1.104. See MPEP § 821.04(a). Applicant is advised that if any claim presented in a continuation or divisional application is anticipated by, or includes all the limitations of, a claim that is allowable in the present application, such claim may be subject to provisional statutory and/or nonstatutory double patenting rejections over the claims of the instant application.

The examiner has required restriction between product and process claims. Where applicant elects claims directed to the product, and a product claim is subsequently found allowable, withdrawn process claims that depend from or otherwise include all the limitations of the allowable product claim will be rejoined in accordance with the provisions of MPEP § 821.04. **Process claims that depend from or otherwise include all the limitations of the patentable product** will be entered as a matter of right if the amendment is presented prior to final rejection or allowance, whichever is earlier. Amendments submitted after final rejection are governed by 37 CFR 1.116; amendments submitted after allowance are governed by 37 CFR 1.312.

In the event of rejoinder, the requirement for restriction between the product claims and the rejoined process claims will be withdrawn, and the rejoined process claims will be fully examined for patentability in accordance with 37 CFR 1.104. Thus, to be allowable, the rejoined claims must meet all criteria for patentability including the requirements of 35 U.S.C. 101, 102, 103, and 112. Until an elected product claim is found allowable, an otherwise proper restriction requirement between product claims and process claims may be maintained. Withdrawn process claims that are not commensurate in scope with

an allowed product claim will not be rejoined. See "Guidance on Treatment of Product and Process Claims in light of *In re Ochiai, In re Brouwer* and 35 U.S.C. § 103(b)," 1184 O.G. 86 (March 26, 1996).

Additionally, in order to retain the right to rejoinder in accordance with the above policy, Applicant is advised that the process claims should be amended during prosecution either to maintain dependency on the product claims or to otherwise include the limitations of the product claims. **Failure to do so may result in a loss of the right to rejoinder.**

Further, note that the prohibition against double patenting rejections of 35 U.S.C. 121 does not apply where the restriction requirement is withdrawn by the examiner before the patent issues. See MPEP § 804.01.

Sequence Election Requirement for All Groups

In addition to the above restriction requirement, all the group 1 reads on patentably distinct sequences. Each sequence is patentably distinct because they are unrelated sequences. Should Applicant elect group 1, then must election of a single SEQ ID NO:1 is required (See MPEP 803.04). It is noted that the multitude of sequence submissions for examination has resulted in an undue search burden if more than one sequence is elected. Absent evidence to the contrary, each such nucleotide sequence is presumed to represent an independent and distinct invention, subject to a restriction requirement pursuant to 35 U.S.C. 121 and 36 CFR 1.141 et seq. Examination will be restricted to only the elected sequence. It is additionally noted that this sequence

election requirement is a restriction requirement and not a specie election requirement. Applicant should indicate which of the claims of the elected group read on the elected sequence.

Because these inventions are distinct for the reasons given above, have acquired a separate status in the art as shown by their different classification and their recognized divergent subject matter, and because each invention requires a separate, non-coextensive search, restriction for examination purposes as indicated is proper.

Applicant is advised that the response to this requirement to be complete must include an election of the invention to be examined even though the requirement be traversed (37 CFR 1.143).

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a petition under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(l).

The examiner has required restriction between product and process claims. Where applicant elects claims directed to the product, and a product claim is subsequently found allowable, withdrawn process claims that depend from or otherwise include all the limitations of the allowable product claim will be rejoined in accordance with the provisions of MPEP § 821.04. **Process claims that depend from or otherwise include all the limitations of the patentable product** will be entered as a matter of right if the amendment is presented prior to final rejection or allowance,

whichever is earlier. Amendments submitted after final rejection are governed by 37 CFR 1.116; amendments submitted after allowance are governed by 37 CFR 1.312.

In the event of rejoinder, the requirement for restriction between the product claims and the rejoined process claims will be withdrawn, and the rejoined process claims will be fully examined for patentability in accordance with 37 CFR 1.104. Thus, to be allowable, the rejoined claims must meet all criteria for patentability including the requirements of 35 U.S.C. 101, 102, 103, and 112. Until an elected product claim is found allowable, an otherwise proper restriction requirement between product claims and process claims may be maintained. Withdrawn process claims that are not commensurate in scope with an allowed product claim will not be rejoined. See "Guidance on Treatment of Product and Process Claims in light of *In re Ochiai, In re Brouwer* and 35 U.S.C. § 103(b)," 1184 O.G. 86 (March 26, 1996). Additionally, in order to retain the right to rejoinder in accordance with the above policy, Applicant is advised that the process claims should be amended during prosecution either to maintain dependency on the product claims or to otherwise include the limitations of the product claims. **Failure to do so may result in a loss of the right to rejoinder.**

Further, note that the prohibition against double patenting rejections of 35 U.S.C. 121 does not apply where the restriction requirement is withdrawn by the examiner before the patent issues. See MPEP § 804.01.

Any inquiry concerning this communication or earlier communications from the examiner(s) should be directed to Richard Schnizer, whose telephone number is 571-272-0762. The examiner can normally be reached Monday through Friday between the

hours of 6:00 AM and 3:30 PM. The examiner is off on alternate Fridays, but is sometimes in the office anyway.

If attempts to reach the examiner by telephone are unsuccessful, the Examiner's supervisor, Peter Paras, can be reached at (571) 272-4517. The official central fax number is 571-273-8300. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to (571) 272-0547.

Patent applicants with problems or questions regarding electronic images that can be viewed in the Patent Application Information Retrieval system (PAIR) can now contact the USPTO's Patent Electronic Business Center (Patent EBC) for assistance. Representatives are available to answer your questions daily from 6 am to midnight (EST). The toll free number is (866) 217-9197. When calling please have your application serial or patent number, the type of document you are having an image problem with, the number of pages and the specific nature of the problem. The Patent Electronic Business Center will notify applicants of the resolution of the problem within 5-7 business days. Applicants can also check PAIR to confirm that the problem has been corrected. The USPTO's Patent Electronic Business Center is a complete service center supporting all patent business on the Internet. The USPTO's PAIR system provides Internet-based access to patent application status and history information. It also enables applicants to view the scanned images of their own application file folder(s) as well as general patent information available to the public.

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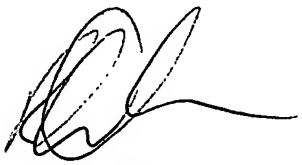

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Art Unit 1635